



## INFORMATIONAL MEMORANDUM

TO: **Transportation and Infrastructure Services Committee**  
 FROM: **Hari Ponnekanti, Public Works Director/City Engineer**  
 BY: **Cyndy Knighton, Senior Program Manager**  
 CC: **Mayor Ekberg**  
 DATE: **April 15, 2022**  
 SUBJECT: **Transportation Element to the Comprehensive Plan Update**  
**Project No. 82010405**  
**Consultant Agreement**

### ISSUE

Execute an agreement with Fehr & Peers to provide transportation modeling services in conjunction with the 2024 update to the Transportation Element of the City's Comprehensive Plan.

### BACKGROUND

Since 2005, the City has used Fehr & Peers to maintain the City's transportation model and develop the Background Report to the Transportation Element. It is now time to begin work toward the next update to the Transportation Element, which must be in place by June 2024. In 2020, a new Concurrency Test Fee schedule was implemented, updating the fee schedule that hadn't been increased since inception. The Concurrency Test Fee is intended to be a funding source for the routine updates to the Transportation Element, including traffic data collection and Concurrency Reports done as needed in between the major Update efforts. 09

### DISCUSSION

Fehr & Peers has worked closely with City staff since 2002 in developing the original model, as well as maintaining it on an annual basis. This familiarity ensures a seamless update to the Transportation Element. In 2010, Tukwila, along with Fehr & Peers, was one of the first jurisdictions in the country to try a recently published Multi-Modal Level of Service (MMLOS) methodology in the Highway Capacity Manual (HCM). That effort had ARRA funding provided by the Federal government as a stimulus during the Great Recession. Staff found that at least for Tukwila, the HCM methodology did not work and not MMLOS standard was adopted. Since that time, MMLOS methodologies have matured, and staff expects to be able to apply one to Tukwila's system and begin implementation. Updating the work done in the Walk and Roll Plan and the Transit Network plan will also be completed. A review of Tukwila's impact fee program to include MMLOS projects and any other necessary changes, as well as a new look at the current fiscal climate, will also be done. Additionally, Fehr & Peers will help staff develop a Road Safety Plan which will open up new grant sources for project implementation.

### FINANCIAL IMPACT

The 2021 budget has \$400,000 for this work. The 2020 budget of \$200,000 was not rolled over into 2022 as the contract was not in place before the end of last year. Additional funding may still be required to complete all the work that is scoped out in the attached contract, but the tasks that are able to be completed in 2022 total \$396,993.43. Allowing the project to begin now with the available funding will provide opportunities to re-evaluate scope and budget needs for the remaining tasks and could reduce the overall scope and budget needs through efficiencies or changes of direction as the work progresses. Staff is currently analyzing budget availability that may come up in 2022 that could be allocated to the remaining work but ultimately the Council will be asked to provide the remaining budget in the 2023-2024 budget process starting later this year.

	<u>Cost Estimate</u>	<u>2022 Budget</u>
Fehr & Peers Contract	\$396,993.43	\$400,000.00

### RECOMMENDATION

The Council is being asked to approve the Consultant Agreement with Fehr & Peers in the amount of \$396,993.43 and consider this item on the Consent Agenda at the May 4, 2022 Regular Meeting.

ATTACHMENTS: 2021Page 17, CIP  
Consultant Agreement

## CITY OF TUKWILA CAPITAL PROJECT SUMMARY

2021 to 2026

**PROJECT:** **Transportation Element of Comprehensive Plan** Project No. 82010405

**DESCRIPTION:** Update Transportation Element of the Comprehensive Plan to include updated traffic model and street network plan.

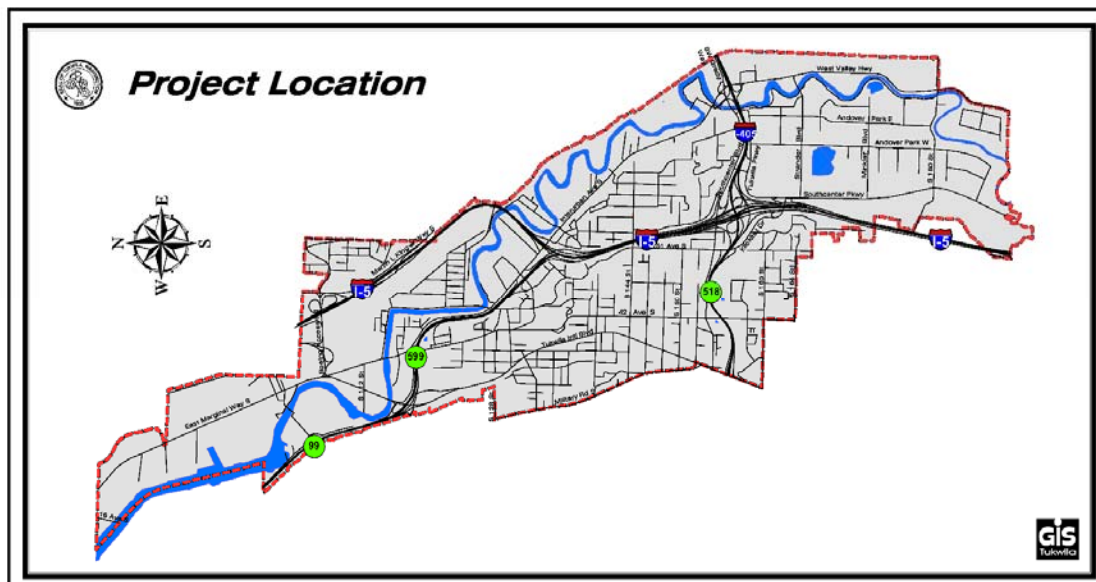
**JUSTIFICATION:** Growth Management Act transportation concurrency and traffic impact mitigations need updated traffic and capital planning. Adoption by 2021 required by Community Trade and Economic Development (CTED).

**STATUS:** Update every 8 years. Transportation Element will be coordinated with updates to Comprehensive Plan by the Department of Community Development. Next update is scheduled for 2021.

**MAINT. IMPACT:** None.

**COMMENT:** An update to the Transit Plan and incorporation of the Walk and Roll Plan (non-motorized) are included in the 2021 Transportation Element of the Comp Plan update.

FINANCIAL (in \$000's)	Through Estimated									TOTAL
	2019	2020	2021	2022	2023	2024	2025	2026	BEYOND	
<b>EXPENSES</b>										
Design	529	200	400						650	1,779
Land (R/W)										0
Const. Mgmt.										0
Construction										0
<b>TOTAL EXPENSES</b>	<b>529</b>	<b>200</b>	<b>400</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>650</b>	<b>1,779</b>
<b>FUND SOURCES</b>										
Awarded Grant	70									70
Proposed Grant										0
Mitigation										0
Impact Fees										0
City Oper. Revenue	459	200	400	0	0	0	0	0	650	1,709
<b>TOTAL SOURCES</b>	<b>529</b>	<b>200</b>	<b>400</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>650</b>	<b>1,779</b>





**PROFESSIONAL SERVICES AGREEMENT**

*(Includes consultants, architects, engineers, accountants, and other professional services)*

**THIS AGREEMENT** is entered into between the City of Tukwila, Washington, hereinafter referred to as “the City”, and Fehr & Peers, hereinafter referred to as “the Consultant”, in consideration of the mutual benefits, terms, and conditions hereinafter specified.

1. **Project Designation.** The Consultant is retained by the City to perform Transportation Planning and Modeling services in connection with the project titled Transportation Element of the Comprehensive Plan.
2. **Scope of Services.** The Consultant agrees to perform the services, identified on Exhibit “A” attached hereto, including the provision of all labor, materials, equipment and supplies.
3. **Duration of Agreement; Time for Performance.** This Agreement shall be in full force and effect for a period commencing upon execution and ending December 31, 2023, unless sooner terminated under the provisions hereinafter specified. Work under this Agreement shall commence upon written notice by the City to the Consultant to proceed. The Consultant shall perform all services and provide all work product required pursuant to this Agreement no later than December 31, 2023 unless an extension of such time is granted in writing by the City.
4. **Payment.** The Consultant shall be paid by the City for completed work and for services rendered under this Agreement as follows:
  - A. Payment for the work provided by the Consultant shall be made as provided on Exhibit “B” attached hereto, provided that the total amount of payment to the Consultant shall not exceed \$396,993.43 without express written modification of the Agreement signed by the City.
  - B. The Consultant may submit vouchers to the City once per month during the progress of the work for partial payment for that portion of the project completed to date. Such vouchers will be checked by the City and, upon approval thereof, payment shall be made to the Consultant in the amount approved.
  - C. Final payment of any balance due the Consultant of the total contract price earned will be made promptly upon its ascertainment and verification by the City after the completion of the work under this Agreement and its acceptance by the City.
  - D. Payment as provided in this section shall be full compensation for work performed, services rendered, and for all materials, supplies, equipment and incidentals necessary to complete the work.
  - E. The Consultant’s records and accounts pertaining to this Agreement are to be kept available for inspection by representatives of the City and the state of Washington for a period of three (3) years after final payments. Copies shall be made available upon request.

5. **Ownership and Use of Documents.** All documents, drawings, specifications and other materials produced by the Consultant in connection with the services rendered under this Agreement shall be the property of the City whether the project for which they are made is executed or not. The Consultant shall be permitted to retain copies, including reproducible copies, of drawings and specifications for information, reference and use in connection with the Consultant's endeavors. The Consultant shall not be responsible for any use of the said documents, drawings, specifications or other materials by the City on any project other than the project specified in this Agreement.
6. **Compliance with Laws.** The Consultant shall, in performing the services contemplated by this Agreement, faithfully observe and comply with all federal, state, and local laws, ordinances and regulations, applicable to the services rendered under this Agreement.
7. **Indemnification.** The Consultant shall defend, indemnify and hold the City, its officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits including reasonable attorney fees, arising out of or resulting from the actual or alleged negligent acts, errors or omissions of the Consultant in performance of this Agreement, except for injuries and damages caused by the sole negligence of the City.

Should a court of competent jurisdiction determine that this Agreement is subject to RCW 4.24.115, then, in the event of liability for damages arising out of bodily injury to persons or damages to property caused by or resulting from the concurrent negligence of the Consultant and the City, its officers, officials, employees, and volunteers, the Consultant's liability hereunder shall be only to the extent of the Consultant's negligence. It is further specifically and expressly understood that the indemnification provided herein constitutes the Consultant's waiver of immunity under Industrial Insurance, Title 51 RCW, solely for the purposes of this indemnification. This waiver has been mutually negotiated by the parties. The provisions of this section shall survive the expiration or termination of this Agreement.

8. **Insurance.** The Consultant shall procure and maintain for the duration of the Agreement, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Consultant, its agents, representatives, or employees. Consultant's maintenance of insurance as required by the agreement shall not be construed to limit the liability of the Consultant to the coverage provided by such insurance, or otherwise limit the City's recourse to any remedy available at law or in equity.

A. **Minimum Amounts and Scope of Insurance.** Consultant shall obtain insurance of the types and with the limits described below:

1. **Automobile Liability** insurance with a minimum combined single limit for bodily injury and property damage of \$1,000,000 per accident. Automobile Liability insurance shall cover all owned, non-owned, hired and leased vehicles. Coverage shall be written on Insurance Services Office (ISO) form CA 00 01 or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage.
2. **Commercial General Liability** insurance with limits no less than \$2,000,000 each occurrence, \$2,000,000 general aggregate. Commercial General Liability insurance shall be at least as broad as ISO occurrence form CG 00 01 and shall cover liability arising from premises, operations, stop-gap independent contractors and personal injury and advertising injury. The City shall be named as an additional insured under the Consultant's Commercial General Liability insurance policy with respect to the work performed for the City using an additional insured endorsement at least as broad as ISO endorsement form CG 20 26.
3. **Workers' Compensation** coverage as required by the Industrial Insurance laws of the State of Washington.

4. Professional Liability with limits no less than \$2,000,000 per claim and \$2,000,000 policy aggregate limit. Professional Liability insurance shall be appropriate to the Consultant's profession.
- B. **Public Entity Full Availability of Contractor Limits.** If the Contractor maintains higher insurance limits than the minimums shown above, the Public Entity shall be insured for the full available limits of Commercial General and Excess or Umbrella liability maintained by the Contractor, irrespective of whether such limits maintained by the Contractor are greater than those required by this Contract or whether any certificate of insurance furnished to the Public Entity evidences limits of liability lower than those maintained by the Contractor.
- C. **Other Insurance Provision.** The Consultant's Automobile Liability and Commercial General Liability insurance policies are to contain, or be endorsed to contain that they shall be primary insurance with respect to the City. Any Insurance, self-insurance, or insurance pool coverage maintained by the City shall be excess of the Consultant's insurance and shall not be contributed or combined with it.
- D. **Acceptability of Insurers.** Insurance is to be placed with insurers with a current A.M. Best rating of not less than A:VII.
- E. **Verification of Coverage.** Consultant shall furnish the City with original certificates and a copy of the amendatory endorsements, including but not necessarily limited to the additional insured endorsement, evidencing the insurance requirements of the Contractor before commencement of the work. Upon request by the City, the Consultant shall furnish certified copies of all required insurance policies, including endorsements, required in this Agreement and evidence of all subcontractors' coverage.
- F. **Notice of Cancellation.** The Consultant shall provide the City with written notice of any policy cancellation, within two business days of their receipt of such notice.
- G. **Failure to Maintain Insurance.** Failure on the part of the Consultant to maintain the insurance as required shall constitute a material breach of contract, upon which the City may, after giving five business days notice to the Consultant to correct the breach, immediately terminate the contract or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the City on demand, or at the sole discretion of the City, offset against funds due the Consultant from the City.
9. **Independent Contractor.** The Consultant and the City agree that the Consultant is an independent contractor with respect to the services provided pursuant to this Agreement. Nothing in this Agreement shall be considered to create the relationship of employer and employee between the parties hereto. Neither the Consultant nor any employee of the Consultant shall be entitled to any benefits accorded City employees by virtue of the services provided under this Agreement. The City shall not be responsible for withholding or otherwise deducting federal income tax or social security or for contributing to the state industrial insurance program, otherwise assuming the duties of an employer with respect to the Consultant, or any employee of the Consultant.
10. **Covenant Against Contingent Fees.** The Consultant warrants that he has not employed or retained any company or person, other than a bonafide employee working solely for the Consultant, to solicit or secure this contract, and that he has not paid or agreed to pay any company or person, other than a bonafide employee working solely for the Consultant, any fee, commission, percentage, brokerage fee, gifts, or any other consideration contingent upon or resulting from the award or making of this contract. For breach or violation of this warrant, the City shall have the right to annul this contract without liability, or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

11. **Discrimination Prohibited.** Contractor, with regard to the work performed by it under this Agreement, will not discriminate on the grounds of race, religion, creed, color, national origin, age, veteran status, sex, sexual orientation, gender identity, marital status, political affiliation, the presence of any disability, or any other protected class status under state or federal law, in the selection and retention of employees or procurement of materials or supplies.
12. **Assignment.** The Consultant shall not sublet or assign any of the services covered by this Agreement without the express written consent of the City.
13. **Non-Waiver.** Waiver by the City of any provision of this Agreement or any time limitation provided for in this Agreement shall not constitute a waiver of any other provision.
14. **Termination.**
  - A. The City reserves the right to terminate this Agreement at any time by giving ten (10) days written notice to the Consultant. In the event of termination of this Agreement, the City shall pay the Consultant for all services performed by the Consultant in accordance with this Agreement to the date of termination.
  - B. In the event of the death of a member, partner or officer of the Consultant, or any of its supervisory personnel assigned to the project, the surviving members of the Consultant hereby agree to complete the work under the terms of this Agreement, if requested to do so by the City. This section shall not be a bar to renegotiations of this Agreement between surviving members of the Consultant and the City, if the City so chooses.
15. **Applicable Law; Venue; Attorney's Fees.** This Agreement shall be subject to, and the Consultant shall at all times comply with, all applicable federal, state and local laws, regulations, and rules, including the provisions of the City of Tukwila Municipal Code and ordinances of the City of Tukwila. In the event any suit, arbitration, or other proceeding is instituted to enforce any term of this Agreement, the parties specifically understand and agree that venue shall be properly laid in King County, Washington. The prevailing party in any such action shall be entitled to its attorney's fees and costs of suit. Venue for any action arising from or related to this Agreement shall be exclusively in King County Superior Court.
16. **Severability and Survival.** If any term, condition or provision of this Agreement is declared void or unenforceable or limited in its application or effect, such event shall not affect any other provisions hereof and all other provisions shall remain fully enforceable. The provisions of this Agreement, which by their sense and context are reasonably intended to survive the completion, expiration or cancellation of this Agreement, shall survive termination of this Agreement.
17. **Notices.** Notices to the City of Tukwila shall be sent to the following address:
 

City Clerk  
City of Tukwila  
6200 Southcenter Boulevard  
Tukwila, WA 98188

Notices to Consultant shall be sent to the following address:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_
18. **Entire Agreement; Modification.** This Agreement, together with attachments or addenda, represents the entire and integrated Agreement between the City and the Consultant and supersedes all prior negotiations, representations, or agreements written or oral. No

amendment or modification of this Agreement shall be of any force or effect unless it is in writing and signed by the parties.

DATED this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

CITY OF TUKWILA

CONSULTANT

\_\_\_\_\_  
Allan Ekberg, Mayor

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Attest/Authenticated:

Approved as to Form:

\_\_\_\_\_  
City Clerk, Christy O'Flaherty

\_\_\_\_\_  
Office of the City Attorney

# City of Tukwila Transportation Element Update

## Fehr & Peers Scope of Work – March 15, 2022

This scope is divided into two sections to identify the year in which tasks are expected to be completed. The first section identifies tasks that can be achieved in the current calendar year, 2022. The second section details optional tasks which may likely be completed in 2023, pending refinement and authorization from City staff. This will allow the project team to right-size tasks based on findings from the public outreach process, existing conditions analysis, and the development of goals and performance metrics.

### Task 1A - Project Management

The objective of this task is to ensure effective and efficient communication between the Consultant team and the City project team to anticipate and resolve problems and assure the project deliverables meet the City's expectations. We will be responsible for proactively managing the tasks and providing all services and work needed to complete the project. We will communicate with the City if there is a potential impact to the schedule due to outstanding data needs or decisions made by City Staff.

#### 1.1 Kick-Off Meeting

Fehr & Peers will attend a Project Kick-Off meeting with the project team to review and approve the allocation of project responsibilities, discuss project goals, objectives, schedule and risks; and strategize effective ways to engage and involve the community and stakeholders. Up to three (3) Consultant team members will attend the Project Kick-Off meeting.

##### *Deliverables:*

- Meeting agenda and notes recapping action items and next steps.

#### 1.2 Project Management and Communication

Fehr & Peers will lead biweekly project team meetings. Project team meetings are anticipated to be half-hour check-in calls with in-person meetings scheduled as needed.

##### *Deliverables:*

- Biweekly project team meeting notes
- Monthly invoices showing the previous month's billing by hours and tasks, and a project status report by task





## Task 2 – Transportation Goals and Policy Review

Over the years, the City has undertaken a number of efforts related to transportation planning. The purpose of this task is to identify a single, unified set of transportation priorities that advance the City's overall vision for transportation. It is assumed that these goals will set the framework for updates to the City's transportation policies, including level of service and administrative policies. Once we have defined Tukwila's vision for mobility, we will work with the City to define what transportation success looks like and how to measure it.

### 2.1 Transportation Goals Workshop

Fehr & Peers staff will lead a two-hour workshop with Tukwila staff (representing various departments such as Public Works, Community Development, Parks & Recreation, Finance, and key elected officials) to identify 4-6 priorities. Fehr & Peers will strategize with City staff on best framing for the conversation to ensure a productive workshop. We anticipate that this task would occur concurrently with Task 3, leveraging existing conditions data to help inform the identification of transportation priorities and development of goals.

Fehr & Peers will produce a summary of the workshop for the project record, identifying apparent transportation concerns, issues, and priorities to help guide the balance of the project. The City will review the summary and provide one round of comments and recommendations.

#### *Deliverables:*

- Workshop materials including the meeting agenda, PowerPoint slides, and meeting notes.

### 2.2 Develop Goals

Based on the outcomes from the workshop, Fehr & Peers will develop proposed language for Transportation Element goals. We will develop a brief memorandum, which summarizes the goals and how they relate to the Comprehensive Plan. The City will review the memorandum and provide one round of comments and recommendations.

#### *Deliverables:*

- Brief memorandum summarizing proposed goals for mobility in Tukwila.

### 2.3 Transportation Element Policy Review

Fehr & Peers and City staff will review the existing transportation policies in the Transportation Element. Fehr & Peers will offer its comments on the existing transportation policies. We will work with City staff to revise the existing transportation policies and propose new policies.



## Task 3 – Assess Trends and Conditions

This task establishes this baseline understanding of existing conditions in Tukwila.

### 3.1 Review Existing Plans and Related Documents

The objective of this task is to review existing documents that are related to or help inform development of the Transportation Element. As part of this review, we will document projects that are currently planned in previously adopted plans and may be incorporated in the draft project list for prioritization. The project list will be sorted by source and include a brief project description, and cost information as available. The list includes:

- City of Tukwila Comprehensive Plan Transportation Element (2015)
- Capital Improvement Program (CIP) for 2021-2026
- Traffic Impact Fee Rate Study
- Tukwila Transit Plan Update (2016)
- City of Tukwila's Non-Motorized Walk and Roll Plan (2009)
- Ryan Hill Neighborhood Study (2018)
- Southcenter Subarea Plan and Design Manual (2014)
- METRO CONNECTS Long Range Transit Plan from King County Metro (2017)
- STRIDE BRT S2 Line from Sound Transit (2021)
- Vision 2050
- King County Countywide Planning Policies

The City and the Fehr & Peers will work together to identify the planned transportation facility improvements by Tukwila, and other agencies including Renton, SeaTac, Burien, Kent, and WSDOT on I-5, I-405, and SR 518.

*Deliverable:*

- Spreadsheet of projects that are currently planned as part of previously adopted plans that may be incorporated in the draft project list.

### 3.2 Data Collection

Fehr & Peers will work with the City to review available data. The City will be responsible for providing data, such as:

- Number of vehicular travel lanes
- Posted Speed Limits
- Intersection Controls
- Marked Crosswalk locations
- Roadway Classification
- Freight Roadway Classification
- Planned Bicycle Facilities
- Existing Bicycle Facilities



- Sidewalk Gaps
- Existing Sidewalks
- Freight Volume
- Planned Roadway Facilities
- Transit Routes
- Transit Stops
- Land Use maps

In addition to data listed above, we will download collision data from WSDOT's online portal for the most recently available five-year dataset. We will review vehicle-vehicle, vehicle-pedestrian, and vehicle-bicycle collisions, which will be analyzed as part of Task 3.4. Safety data will highlight killed and severely injured (KSI) collisions.

Fehr & Peers will assist Tukwila staff in identifying locations where traffic counts should be collected or downloaded from historic databases.

If not included in the City's recent 24-hour tube counts, Fehr & Peers will also collect current or historic vehicle classification counts in the corridors where heavy truck movements have been observed as a part of the daily tube counting. The City will provide the Tukwila Urban Center (TUC) daily tube counts and any other recent counts that have been collected regularly. The Consultant will factor the counts to match 2019 conditions.

### **3.3 Existing Auto Operations Assessment**

Fehr & Peers will create an existing (year 2019) PM peak hour operations model with up to 60 intersections in the City of Tukwila. To the extent possible, we will build from networks developed by the City and Fehr & Peers as part of previous projects. Fehr & Peers will analyze up to 60 intersections during the PM peak hour using the Synchro model. If it is necessary to analyze additional intersections to meet the City's new MMLOS metrics, Fehr & Peers will prepare an additional scope on a cost and materials basis.

#### *Baseline Traffic Conditions*

Given current challenges and unprecedented travel patterns related to COVID-19, we will develop baseline traffic volumes based on historic counts from 2019. Our approach will utilize both historical counts available from traditional count vendors, as well as remote turning movement data prepared by big data vendors, like Streetlight Data. We also anticipate factoring some counts taken in 2021 (post peak COVID-19 impacts to transportation) to 2019 conditions where the historic or remote data are not available or reliable.

#### *Citywide Traffic Operations Analysis*

The City will provide signal timing information at locations controlled by the City. Fehr & Peers will calculate intersection levels of service (LOS) using Synchro for the PM peak hour. Using the most current Urban Street Corridor LOS method from the Highway Capacity Manual and leveraging data collected for other analyses



in the TE update, Fehr & Peers will calculate arterial corridor LOS using the state of the practice methodology.

Fehr & Peers will perform two field visits to review signal timings and validate geometries at key intersections.

#### *Focused Traffic Analysis for the Urban Center*

Fehr & Peers will also perform weekday midday and weekend peak hour levels of service analyses for up to 15 intersections, including major driveways in the vicinity of Southcenter Mall, which is understood to have non-traditional peak periods in traffic volumes due to mall travel patterns.

#### *Assumptions*

- City will provide signal timing sheets and information for all signalized intersections.
- Findings from this task will be included in the Transportation Needs Assessment.

#### *Deliverables:*

- 2019 PM peak hour Synchro citywide intersection-level traffic operations results
- Tukwila Urban Center midday and weekend intersection LOS results

### **3.4 Collision History Analysis**

Fehr & Peers will summarize the past five years of collision data within the City using data from WSDOT. This work will be prepared as part of Fehr & Peers work on the Local Road Safety Plan, which is described in Task 11.

### **3.5 Existing Conditions for Transit**

Transit is a critical mode of travel in Tukwila and requires careful planning to advocate for Tukwila riders. As part of this task, Nelson\Nygaard will assess how transit is operating in Tukwila. This includes documenting ridership, productivity, service availability, and on-time performance for all routes operating in Tukwila. Maps will be developed showing ridership levels for each route. We anticipate using existing data from King County Metro and Sound Transit to develop the existing conditions route summaries.

In addition, using available data, an assessment for Via to Transit service from TIB will be conducted. Origin/destination data, as well as time of day usage will be assessed to understand the demand and trip patterns. An assessment of the span of service will also be conducted.

#### *Market Analysis and Travel Patterns*

In order to better understand where employees are coming into Tukwila, we will utilize the most recent Longitudinal Employer-Household Dynamics (LEHD) data to show the origin and destination of work trips in and out of Tukwila for all employees and also for low-wage jobs. This information can help address where opportunities for additional connections, on-demand type services, and untapped markets exists.



An assessment of predominant travel patterns into and out of Tukwila will be conducted. The intent of the analysis is to understand if transit service aligns with these travel flows and what, if any, gaps exist.

*Deliverables:*

- Existing conditions for transit memo

### **3.6 Transportation Needs Assessment and Existing Conditions**

We will use the results of the data collection, orientation interviews, and outreach related to goals development to determine a set of key transportation issues and existing baseline. Once the key transportation issues are identified, Fehr & Peers will use these findings to conduct a needs assessment for the following transportation modes and programs:

- Vehicle Congestion
- Multimodal Needs (Biking, Walking)
- Transit Needs
- Freight and Truck Mobility
- Collision history
- Other as identified during completion of Tasks 1.1 and 1.2

This needs assessment will include an evaluation of existing conditions that will summarize the analysis findings. This report will include graphics illustrating the results of the transportation data, collection effort and the multi-modal operations analysis. This draft report will feed into a chapter of the final report and be included as an appendix.

*Deliverables:*

- Visually-enhanced memo documenting existing conditions for the above modes, as well as anticipated future conditions

## **Task 4 - Metrics Development**

Once the City's transportation goals and needs have been established, the next step is to identify the types of level of service (LOS) measures that will reinforce these priorities. Similar to Task 1, we will hold a second workshop with staff to discuss LOS options for each mode. Then, we will summarize metrics for approval by City Council.

### **4.1 MMLOS Workshop**

Fehr & Peers staff will lead a three-hour workshop with Tukwila staff (representing departments such as Public Works, Community Development, Parks and Recreation, and key elected officials) to identify transportation LOS metrics. This workshop will build from the transportation goals identified in the Task 2 workshop. Prior to the workshop, Fehr & Peers will develop maps and data that will facilitate the discussion of LOS options, such as maps of the City's key networks for each transportation mode, the presence of



facilities (such as sidewalks), and key land uses. We will rely on data available in the City's GIS database. This upfront work is expected to facilitate a productive discussion at the workshop. During the workshop, Fehr & Peers will present multimodal level of service (MMLOS) models currently applied in other communities, facilitate discussion of the relevance of these models in Tukwila given the community's goals and transportation system, and discuss if any of these resonate with city staff.

We will produce a summary of the workshop for the project record. The City will review the summary and provide one round of comments and recommendations.

Nelson\Nygaard will provide support for the implementation of MMLOS. We anticipate preparing and attending this workshop. The level of effort will be limited to 16 hours of support, and no work on this task will take place without specific direction from Fehr & Peers.

*Deliverables:*

- Meeting notes summarizing the LOS Workshop and related efforts.

#### **4.2 Develop MMLOS Metrics**

Based on the outcomes from the workshop, Fehr & Peers will develop recommended MMLOS metrics, standards, and planning guidelines for inclusion in the Transportation Element. These MMLOS metrics, standards, and planning guidelines will identify the types of facilities that would be needed to accommodate each mode of travel (pedestrian, bicycle, transit, and automobiles) and the data needed to monitor this LOS and accommodate for each mode.

We will develop a brief memorandum, which summarizes the LOS metrics and how they relate to state-of-the-practice methods. The City will review the memorandum and provide one round of comments and recommendations.

*Deliverables:*

- Memorandum summarizing MMLOS policy recommendations, including maps of facilities.

#### **4.3 Modal Network Development**

Following the level of service (LOS) workshops and the existing and planning context analysis, we will develop a series of proposed networks for the City of Tukwila that include the following modal priority networks:

- Pedestrian
- Bicycle
- Transit
- Auto
- Freight



*Deliverables:*

- Priority network maps (pdf, geodatabases including shapefiles and layer files, and .mxd files). All data must include associated metadata.
- Memo describing how these priority networks guide infrastructure recommendations and tie to LOS policies

#### **4.4 Apply Performance Metrics**

Building off the MMLOS metrics and project goals, Fehr & Peers will work with the City to apply the MMLOS metrics to all city arterials (principal, minor, and collector), the bicycle priority network, and major pedestrian streets. The application will focus on 2019 conditions. Results will be shared with the City in a spreadsheet and maps will also be prepared for inclusion in the final report.

*Deliverables:*

- Spreadsheets and maps applying MMLOS performance metrics

## **Task 5A – Model Development**

Task 5 describes the steps necessary to develop an updated travel demand model customized for the City of Tukwila that is based on the most recent version of Puget Sound Regional Council (PSRC) trip-based model. The TAZ structure and roadway network detail will be consistent with the current version of the City's model. The deliverables for this task include a calibrated and validated base year scenario, near-term scenario for concurrency checks, and a long-term scenario for horizon year planning.

### **5.1 Existing Data Collection and Base Year Model Inputs**

The existing data required to develop the City's model will be collected and organized under this task. As part of this task, we will coordinate with the City to discuss the following data needs.

The City will be responsible for providing:

- Existing population and employment estimates by TAZ
- Roadway functional classification, number of lanes, and posted speed limits

The existing inputs to the PSRC travel model will be used as the basis for model development. The TAZ system and roadway network detail within the City of Tukwila will be imported from the current version of the City's model. Travel model land use inputs for the City will be updated based on the information provided by the City, Fehr & Peers will update the roadway and transit networks using data from Task 3. The existing PSRC input assumptions will be used when updated data is not available from the City, for example neighboring jurisdiction land uses and transportation networks. For areas outside the City, the necessary inputs will be interpolated to the base year of the new City of Tukwila model. The transportation



network within a reasonable distance of the City will also be verified and updated as necessary to be consistent with the updated base year.

## 5.2 Base Year Scenario Calibration and Validation

The base year scenario will be calibrated and validated under this task. The specific validation checks will be appropriate for the scope and scale of the City's model and will include both static and dynamic tests. The model will be validated to existing conditions data as well as travel behavior patterns consistent with the PSRC regional model. Sample static validation tests include:

- Mode split estimates (SOV, HOV, transit, non-motorized)
- Comparison of model volumes to existing counts (at individual locations and screenlines)

Dynamic validation tests will ensure that the model responds appropriately to changes in land use and modifications to the roadway network. Sample dynamic validation tests include increasing the household and employment estimates and adding or removing capacity from the roadway network.

*Deliverable:*

- Model validation report summarizing static and dynamic validation tests for each step of the model. The validation requirements will be discussed, and full results provided for each analysis time period.

*Refinement of the future year scenario and future forecasts are anticipated to occur in the scope of optional tasks.*

## Task 6A - Public Outreach

Community engagement is a key component of the overall process, ensuring that community stakeholders have ample opportunity to identify issues, influence outcomes, and participate in final recommendations. This engagement program will approach these issues sensitively, creating a constructive context for conversation, debate, and, perhaps, change. The overall engagement program will enable collaboration in identifying and resolving issues, facilitate two-way communication, ensure transparency, and build trust.

### 6.1 Outreach and Social Media Strategy Plan

As part of this task, Fehr & Peers will work with City staff to develop a Public Outreach Plan including outreach strategies, events, and timeline. Before initiating outreach, Fehr & Peers will meet with Tukwila staff (such as staff from Human Services and the City's Community Outreach Manager) to understand current connections, relationships, and City staff capabilities for translation and interpretation.

*Assumptions:*

- City staff will work with the Tukwila Communications Department on approval and implementation of the social media strategy





*Deliverables:*

- Public outreach plan and social media strategy plan

## **6.2 Orientation Interviews**

We will conduct six stakeholder interviews, speaking with community stakeholders, staff from local transit and transportation agencies, and representatives from the community's major employers. These interviews may be conducted in Tukwila (at a location determined and arranged by City staff), conducted by phone or online platforms, or at a local agency's office. City staff will also be responsible for inviting interviewees and confirming the interview schedule.

We will produce a summary of the interviews for the project record, identifying apparent transportation concerns, issues and priorities to help guide the balance of the project.

*Assumptions:*

- These interviews will be conducted at a location determined and arranged by City staff.
- City staff will also be responsible for inviting interviewees and confirming the interview schedule. If necessary, some interviews may be conducted by phone, online, or at locations outside of Tukwila.

*Deliverables:*

- Memorandum summarizing interview findings

## **6.3 Online Engagement and Public Outreach Materials**

We will assist the City by defining project messages and creating templates and materials. In order to build awareness for the project, this task includes the following outreach methods:

- Host a project website in English and translated into up to four additional languages.
- Two online surveys, in English, and translated into up to four additional languages. Fehr & Peers will analyze the results. The outreach plan will address specific online engagement tools to be utilized.
- Three fact sheets on the project - one draft and one final version of each – that incorporates Tukwila staff feedback to serve as handout material at events and when engaging with the public and stakeholders.
- "Meeting in a Box" materials: Fehr & Peers will develop materials that City staff can use to conduct additional outreach events, such as pop-ups, to "meet the community where they are." Specific materials will be specified in the outreach plan.

## **6.4 Online Interactive Webmap**

To collect additional information from members of the public, Fehr & Peers will develop a user-friendly, online interactive map where community members can provide input on potential needs and improvements in specific locations, such as missing bicycle/pedestrian connections, high-stress crossings, challenging intersections or road segments, or near-miss locations.



City staff will review and comment on the draft survey and web map, and the Consultant team will make one round of edits (as needed). After enough time has passed to allow the public opportunity to register comments on the website, we will close the interactive web map for additional comments, and Fehr & Peers will analyze the results, which will inform our project recommendations in Task 7.

*Deliverables:*

- Interactive Webmap
- Online map findings section of public outreach memorandum
- **6.5 City Council Check-Ins (2022)**

The Consultant team will present at up to two City Council or boards/commissions meetings to report on progress made and to request input from the Council/board/commission. Input will be needed at key points during the development of the Transportation Element, such as:

- Goals and vision
- MMLOS metrics
- Performance metrics
- Draft project list
- Draft Plan
- Implementation items (impact fees, financial plan, etc.)

*Deliverables:*

- Consultant attendance at City Council/boards/commissions meetings
- Presentation materials

## **6.6 Targeted Outreach and Personalized Engagement**

Tukwila is a diverse community with businesses and residents that reflect different ethnicities, cultures, and primary languages. Outreach activities to “hard to reach” groups are anticipated to include a range of activities.

Targeted outreach is likely to consist of phone calls, emails, or attendance (either virtually if COVID continues to be an issue, or in person) at community events or meetings. In addition to targeted outreach, Fehr & Peers will identify locations and audiences for pop-up events or online focus groups designed to serve traditionally underserved communities. We will design targeted outreach events and online focus groups/pop-up events at 2-4 locations to gain public input on the draft project list.

Locations, timing, and activities may vary based on the results of the targeted outreach. We will make use of translators regarding materials and interpreters to help facilitate in-person meetings; these interpreters can be City staff who want to form long-term relationships or interpreters engaged through a vendor (e.g. Dynamic Languages). If this task is advanced, we will need to refine our cost estimate based on whether the



City provides translators, or if Fehr & Peers works with a subconsultant for translation services. For the purposes of budgeting, we have included \$2,000 in vendor translation services.

### *Equity Analysis*

Fehr & Peers will perform an in-depth equity analysis based on identified equity emphasis areas. In other communities, equity emphasis areas identify portions of the City where transportation investments may be prioritized differently based on unique needs or different timeframes to address specific transportation needs, patterns, and preferences. We will work with the City to identify these areas including variables such as: health, income, age, and ethnicity, foreign born status, readily available travel options, and accessibility.

We will meet with City staff in two 1.5-hour meetings. First, we will discuss current equity practices and historically underserved communities in Tukwila. After performing a data review and equity analysis, we will meet with the City again to discuss equity emphasis area maps and figures and identify how we may want to consider the equity emphasis areas in project identification and prioritization.

### *Assumptions:*

- City staff will assist with staffing public outreach events
- City staff will print any flyers or hand-outs and poster boards

### *Deliverables:*

- Equity emphasis area maps and figures (pdf, geodatabases including shapefiles and layer files, and .mxd files).
- Brief memorandum summarizing the data review and equity analysis process
- Meeting agenda and notes
- Pop-up materials including electronic copies of poster boards and PDF files of hand-outs
- 

## **OPTIONAL TASKS (Expected to be executed in 2023)**

### **Task 1B - Project Management**

#### **1.2 Project Management and Communication**

Fehr & Peers will lead biweekly project team meetings. Project team meetings are anticipated to be half-hour check-in calls with in-person meetings scheduled as needed.

### *Deliverables:*

- Biweekly project team meeting notes



- Monthly invoices showing the previous month's billing by hours and tasks, and a project status report by task

## Task 5B – Model Development

### 5.3 Future Year Scenarios

This task will develop the inputs and necessary modifications for the future year scenarios (concurrency and long-term horizon). The land use assumptions and transportation networks within the City of Tukwila will be updated based on information provided by the City. Outside of the City, changes will be based on the assumptions in the PSRC model. In conjunction with reviewing model outputs, Fehr & Peers will develop the intersection volume post-processor to be used in analyzing vehicle intersection operations.

This task could also develop customizations for the City's model based on the specific requirements of an adopted MMLOS policy or specific variables/policies that the City would like to test within the travel model.

#### *Deliverables:*

- Model forecasting report summarizing future year inputs and assumptions
- Spreadsheet of future year intersection-level forecasts

## Task 6B - Public Outreach

### 6.3 Online Engagement and Public Outreach Materials

We will assist the City by defining project messages and creating templates and materials. In order to update the public on for the project, this task includes the following outreach methods:

- Update a project website in English and translated into up to four additional languages.
- Three fact sheets on the project - one draft and one final version of each – that incorporates Tukwila staff feedback to serve as handout material at events and when engaging with the public and stakeholders.
- "Meeting in a Box" materials: Fehr & Peers will develop materials that City staff can use to conduct additional outreach events, such as pop-ups, to "meet the community where they are." Specific materials will be specified in the outreach plan.

### 6.6 City Council Check-Ins (2023)

The Consultant team will present at up to two City Council or boards/commissions meetings to report on progress made and to request input from the Council/board/commission. Input will be needed at key points during the development of the Transportation Element, such as:

- Goals and vision
- MMLOS metrics
- Performance metrics



- Draft project list
- Draft Plan
- Implementation items (impact fees, financial plan, etc.)

*Deliverables:*

- Consultant attendance at City Council/boards/commissions meetings
- Presentation materials

### **6.7 Targeted Outreach and Personalized Engagement (2023)**

Building off targeted outreach performed in 2022, this targeted outreach is likely to consist of phone calls, emails, or attendance (either virtually if COVID continues to be an issue, or in person) at community events or meetings. In addition to targeted outreach, Fehr & Peers will identify locations and audiences for pop-up events or online focus groups designed to serve traditionally underserved communities. We will design targeted outreach events and online focus groups/pop-up events at 2-4 locations to gain public input on the draft project list.

Locations, timing, and activities may vary based on the results of the targeted outreach. We will make use of translators regarding materials and interpreters to help facilitate in-person meetings; these interpreters can be City staff who want to cull long-term relationships or interpreters engaged through a vendor (e.g. Dynamic Languages). If this task is advanced, we will need to refine our cost estimate based on whether the City provides translators, or if Fehr & Peers works with a subconsultant for translation services. For the purposes of budgeting, we have included \$2,000 in vendor translation services.

*Deliverables:*

- Meeting agenda and notes
- Pop-up materials including electronic copies of poster boards and PDF files of hand-outs

### **6.8 Transit Rider Intercept Survey**

As an optional task, Nelson\Nygaard staff will conduct Intercept surveys at TIB or Southcenter stations during morning and mid-morning times. The intent of the survey is to establish how people access transit and what access improvements would help them to better access transit. Questions about why people ride transit will also be included to better understand the motivations for choosing transit and steps Tukwila can take to improve the attractiveness of transit (recognizing the City can't increase frequency or coverage alone).

*Deliverable:*

- Intercept survey summary



## 6.9 Outreach Summary

Fehr & Peers will create a document that summarizes the outreach efforts that were conducted as part of this project, including a description of outreach events and meetings, communities of emphasis, and collected feedback.

### *Deliverables:*

- Outreach summary with graphics

## Task 7 - Future Projects Development and Evaluation

Following the understanding of trends and the identification of priorities, the project team will identify policies, programs, and projects that advance the city's priorities.

### 7.1 Future Auto Operations Assessment

Fehr & Peers will use the travel demand model to develop future year forecasts at the intersections identified in the existing (year 2019) PM peak hour operations analysis. We will again analyze up to 75 intersections during the PM peak hour using the Synchro model, applying state of the practice methodology. For each intersection, we will report average delay per vehicle and level of service (LOS). If additional intersections are requested by the City, Fehr & Peers will put together a separate scope on a time and materials basis.

Then, we will update the 2019 Synchro network to incorporate the proposed project list and analyze operational performance.

Fehr & Peers will draft a memorandum, which will discuss both intersections and corridors operational performance including identifying those that fail to meet the identified operational standard.

### *Deliverables:*

- Forecasted - No Action - PM peak hour Synchro intersection-level traffic operations results
- Forecasted – With Improvements - PM peak hour Synchro intersection-level traffic operations results
- One draft and one final summary memo

### 7.2 Develop Proposed Project List

After reviewing projects in adopted plans, crash data, developing modal networks, identifying MMLOS standards and modal networks, Fehr & Peers will develop the proposed project list. This includes suggesting capital improvements that fill a gap in the multimodal networks. In addition, Fehr & Peers will work with City staff to add projects identified in the online webmap. These improvements will address needs identified for all modes and support the established transportation goals.



Fehr & Peers will lead up to three meetings with City staff. In the first meeting with City staff, we will review the final list of roadway projects in adopted plans and programs provided by City staff. In addition, Fehr & Peers will work with City staff to add projects identified in the transportation needs assessment, projects to meet future MMLOS standards, and projects identified in the online webmap. Then, we will lead up to two meetings to review the “expanded” project list with the identified additions.

*Assumptions:*

- City staff will provide a list of roadway projects currently planned for Tukwila and actively participate in project list development meetings

*Deliverables:*

- List of draft policies, programs, and projects
- Meeting materials including agenda and meeting notes

### **7.3 Policy, Program, and Project Prioritization**

As part of this task, Fehr & Peers will use the performance metrics developed in TASK 4, to prioritize policies, programs, and projects. The prioritized list will be presented to the City Council, and members of the public during the second phase of public outreach and will be refined based on their feedback. Fehr & Peers will lead an in-person meeting with City staff to review the prioritized project list.

*Assumptions:*

- City staff will participate in in-person meeting to review the prioritized project list.

*Deliverables:*

- Draft and Final prioritized lists
- Meeting materials including agenda and meeting notes

### **7.4 Transit Service Recommendations**

The transit element will update the direction for transit. It can include updated recommendations for fixed-route service and on new technologies that can expand coverage and serve hard-to-reach areas where big 40-foot buses may not be appropriate. Recommendations may focus on the span of service of Via to Transit, additional types of on-demand services to enhance intra-Tukwila trips and first/last mile access, and ensuring job-access.

The short-term plan will provide an overview of the proposed changes and detailed descriptions of all individual changes. For each proposed change, the service plans will include:

- A description of proposed changes
- The rationale for the change
- Maps of proposed changes



- Planning level operating cost increases for either King County Metro or Sound Transit services, recognizing that these are not City of Tukwila costs
- Capital cost planning-level estimates
- Other relevant information

*Deliverable:*

- Service recommendations memo

## **Task 8 – Project Cost Estimates**

This task will involve providing cost estimating services to provide project construction cost for use in the City of Tukwila Transportation Element of the Comprehensive Plan Update.

### **8.1 Cost Estimate Review and Updates**

KPFF will review the previously developed cost estimates of up to fifteen (15) projects listed in the Transportation Element of the Comprehensive Plan Update. The pay items will be evaluated for their relevance to the project's scope of work, and missing pay items will be identified. Measurable quantities of major cost items will be quantified using aerial imagery. Unit prices and lump sum cost will be reviewed and compared to current bid results and the WSDOT Unit Bid Analysis. Updated cost estimates will be provided for use in the Transportation Element of the Comprehensive Plan.

*Assumptions:*

- Fifteen (15) previously developed cost estimate in the Transportation Element of the Comprehensive Plan Update will be reviewed and updated. Fehr & Peers will direct KPFF on which projects to review.
- Cost estimates will be submitted in MS Excel and PDF formats.
- Unit prices will be developed using recent project bid history and the WSDOT Unit Bid Analysis.
- Quantities calculations will be created for the measurable pay items. Percentage based costs may be used for pay items that cannot be clearly measured at this level of design.

### **8.2 New project development and cost estimating**

KPFF will develop order-of-magnitude cost estimates for up to fifteen (15) new projects to be identified as part of this work. If needed, CAD layouts on aerials will be created to define construction limits of major project elements. These will be used to quantify major cost items such as HMA, concrete, earthwork, and utility impacts. Items that cannot be quantified such as drainage, signing, mobilization, illumination, etc., will be estimated based on a percentage of the overall project cost.

- *Assumptions:*





- Cost estimates for up to fifteen (15) new projects will be developed. Fehr & Peers will provide the location and scope of work for each project.
- Cost estimates will be submitted in MS Excel and PDF formats.
- Unit prices will be developed using recent project bid history and the WSDOT Unit Bid Analysis.
- Quantities calculations will be created for the measurable pay items. Percentage based costs may be used for pay items that cannot be clearly measured at this level of design.

*Deliverable(s):*

- Draft and Final Cost estimates for up to thirty (30) projects identified by the City and Consultant team. Estimates will be delivered in MS Excel and PDF formats.

## **Task 9 - Project Funding Evaluation**

The goal of the funding analysis is to provide the City with a planning-level understanding of the baseline funding availability as well as potential resources available for future transportation capital projects. The funding analysis will focus on identifying the primary funding elements for transportation projects.

### **9.1 Funding Opportunities**

Fehr & Peers and the City will jointly work to develop a financial plan. The City will provide estimates of historical and anticipated transportation expenditures City-wide Fehr & Peers and the City will develop a list of the potential future funding sources, estimate amounts likely to be available and identify projects that would be eligible for each funding source. The transportation improvements will be evaluated from a point of the financial feasibility.

- Fehr & Peers will prepare a memo summarizing the financial situation and available funding opportunities.

## **Task 10 - Report Development**

The goal of this task will be to create Tukwila's Transportation Element Background Report, which lays out the vision developed through the prior tasks in this scope and prior scopes.

### **10.1 Draft Report**

Fehr & Peers will compile the modal elements into a Transportation Element Background report. These documents will be concise and user-friendly, while also conveying the necessary information to fulfill the scope items described above.



Nelson\Nygaard will compile work and findings related to transit developed in previous tasks. These materials will be tied together in a report to document the transit needs in Tukwila and provide a vision toward meeting those needs. Topics to be provided will include:

- Background information and data assessment
- Proposed service recommendations
- Development of transit service alternatives, including long-term and short-term service plans

*Deliverable:*

- Draft report

## **10.2 Administrative Draft Report**

In response to a single consolidated round of comments from City staff, the project team will prepare an Administrative Draft Report for presentation to members of the public, and the City Council.

*Assumptions:*

- A single consolidated round of non-conflicting comments will be compiled by City staff and provided to Fehr & Peers.

*Deliverable:*

- Administrative Draft Report

## **10.3 Final Report**

In response to feedback received during public outreach and from the City Council, the project team will revise the Administrative Draft Report to develop the Final Report.

Nelson\Nygaard will prepare a Final Transit Report incorporating all staff comments.

One staff member from Nelson\Nygaard and two staff members from Fehr & Peers will hold a final meeting with City and other key staff to review the draft final report.

*Assumptions:*

- Comments from members of the public will be compiled in the memorandum presenting key takeaways from the public event and will be addressed in the final report.
- A single consolidated round of comments will be compiled by City staff and provided to Fehr & Peers.

*Deliverables:*

- Final Report



- All tables, graphics and maps in appropriate formats

## **Task 11 – Local Road Safety Plan**

The purpose of this task is to develop a plan identifying common risk factors and strategies to address a systemic approach to safety in support of WSDOT’s Target Zero to reduce road safety fatalities and serious injuries. Leveraging analysis performed as part of the Transportation Element in previous tasks, developing a Local Road Safety Plan will help position the City for future WSDOT Highway Safety Improvement Program (HSIP) funding for projects that may reduce traffic fatality crashes. This task will be performed following guidance provided by WSDOT in how to build a local road safety plan.

### **11.1 Analyze Individual Fatal/Serious Collisions to Identify Risk Factors**

Fehr & Peers will obtain the most recent five-years worth of collision data from WSDOT for the City of Tukwila. The collision data will be reviewed and cleaned (clearly identifying missing data, correcting inconsistencies in data entry, etc.) before it is loaded into a GIS database. The GIS database will allow the City to quickly filter crashes based on location, crash type (rear-end, broadside, turning vehicle/bicycle, etc.), mode of transportation involved, severity (fatality, serious injury, other), and contributing factor.

Once the data are in GIS format, we will analyze all fatal and serious crashes and look for trends to determine risk factors. Specifically, we will investigate the traits of the parties involved, collision types (e.g., rear-end, broadside), preceding movements, unsafe behaviors, and other contributing factors like time of day, weather, distraction, or alcohol/drug influence. We will also investigate trends in contextual variables (i.e. risk factors) such as roadway speeds, ADT, functional class, number of travel lanes, intersection traffic controls, the presence of pedestrian and bicycle facilities, and the types of nearby land uses. We will assess how these variables may affect the safety of roadway users, with a particular focus on pedestrians and cyclists. This will form the basis for the Risk Factor analysis described in Task 11.2

#### **Deliverables:**

- Citywide collision database in GIS
- A list of the top risk factors
- Collision map showing fatality and serious injury crashes by mode (also to be included in the Existing Conditions section of the Transportation Element)
- Collision heat map showing all collisions (also to be included in the Existing Conditions section of the Transportation Element)
- Crash rates at study intersections and up to 20 roadway segments (also to be included in the Existing Conditions technical appendix of the Transportation Element)



## 11.2 Most Common Risk Factor List

Fehr & Peers will build on the previous task by identifying common safety risk factors. WSDOT reports that to date, applicants have an average of six risk factors. Fehr & Peers will share its findings in a one-hour phone call with City staff.

Task 2.1 Deliverables:

- One-hour phone call with City staff to review findings of the top risk factors observed; recommendation of risk factors to carry forward in the LRSP

## 11.3 Analyze Roadway Network for Presence of Risk Factors

We will analyze the City's roadway network to determine where the common risk factors are present. (Note: WSDOT is flexible about how this analysis is conducted, though many jurisdictions perform this analysis on a corridor-by-corridor basis.) Fehr & Peers will flag high-risk locations as those with the greatest number of risk factors. This serves to identify those locations/corridors with high collision potential.

Deliverables:

- Map and excel table showing high-risk locations

## 11.4 Create Prioritized List of Roadway Sections

From the subset of high risk/high-collision corridors, Fehr & Peers, in conjunction with City staff, will identify up to ten priority project locations consisting of hot spots, sub-corridors, or small zones. The project priority locations will include a mix of "quick fix" projects that can be deployed quickly to address crashes and larger-scale projects that are more costly and complex to implement, but can address more crashes or crashes that cannot be addressed through a quick fix. We envision developing the priority project location list/map in a two hour workshop with City staff.

Deliverables:

- Two-hour workshop with City staff to review collision data and identify priority project locations
- Map of up to 10 priority project locations

## 11.5 Identify Countermeasures to Address Prioritized Locations

Fehr & Peers has developed an extensive database of effective safety countermeasures, strategies, and practices to reduce the number and severity of roadway collisions for all modes. Our database is built on best practices and literature reviews and resources like the WSDOT Target Zero and FHWA countermeasure toolboxes.

Using this countermeasure database, we will develop a targeted list of potential engineering safety countermeasures for the City to consider for implementation, and match these with the priority locations identified in the previous task in a matrix. City staff will provide input on the draft pairings. The matrix will



serve as a tool to link the risk factors to countermeasures and define location-specific projects or programmatic policies/programs.

This matrix will help illustrate the connection between identified deficiencies and corresponding opportunities (i.e., countermeasures) in the City's transportation network.

Deliverables:

- Excel spreadsheet matrix pairing priority locations with potential countermeasures. One round of revisions based on consolidated City comments
- Meeting with City staff to review draft matrix

## **11.6 Develop a Prioritized List of projects**

Fehr & Peers will develop a draft Local Road Safety Plan. The Draft Plan will present existing safety conditions, collision patterns, priority project locations, and a prioritized list of projects.

Fehr & Peers will meet with City staff to review staff feedback on the Draft Local Road Safety Plan. Fehr & Peers will provide the draft plan in advance of the meeting. We will incorporate feedback received from City staff into a Final Local Road Safety Plan. City staff will take the lead on plan adoption.

Deliverables:

- Draft Local Road Safety Plan
- Meeting with City staff to review the Draft Plan
- Final Local Road Safety Plan, based on one round of revisions from consolidated City comments

## **Task 12 – Management Reserve**

### **12.1 Management Reserve**

This scope is based on our best understanding of what is required to complete the City's Transportation Element Background Plan and Local Road Safety Plan, but there are a few tasks that require further exploration once the project begins. These include the number of intersections required to meet the City's proposed LOS policy, the number of intersections requested by the City to analyze outside of the PM peak hour, and potential translation services. Fehr & Peers will not bill to this task unless authorized by City staff.

3/28/2022		Fehr & Peers							Nelson\Nygaard				KPFF			FP Total	NN Total	KPFF Total	Subtotal
		Principal in Charge	Senior Planner / Deputy PM	Modeling/ Operations Lead	Outreach Lead	Project Planner	Graphics	Admin	Principal 5	Associate 2	Associate 1	Senior Designer	Civil Lead	Project Engineer	CAD Technician				
		Chris Breiland	Emily Alice Gerhart	Jeff Pierson	Sarah Saviskas	Marissa Milam	Peter Nguyen	Brittany Skinner	Thomas Wittmann	Joe Poirier	Ashankh Jaishankar	Brendan Rahman	Nathan Anderson	Cory Morton	Michael Vu				
<b>Tasks</b>		\$ 305	\$ 170	\$ 190	\$ 160	\$ 140	\$ 155	\$ 120	\$ 251	\$ 106	\$ 95	\$ 139	\$ 155	\$ 115	\$ 85				
<b>Task 1A: Project Management</b>																			
1.1	Kick-Off Meeting	6	3	3			1		3	3									
1.2	Project Management and Communication	24	32	4	2	5	12		24	24									
<b>Task 2: Transportation Goals and Policy Review</b>																			
2.1	Transportation Goals Workshop	8	12			12	8	3											
2.2	Develop Goals	6	16			16	4	3											
2.3	Transportation Element Policy Review	4	12			16	2												
<b>Task 3: Assess Trends and Conditions</b>																			
3.1	Review Existing Plans and Related Documents	2	12			20	2		2	4	8								
3.2	Data Collection		6			24	8	2											
3.3	Existing Auto Operations Assessment	4	24	12		160	3	13											
3.4	Collision History Analysis	2	8			20	12	3											
3.5	Existing Conditions for Transit	1	4			4	1		8	56	72	10							
3.6	Transportation Needs Assessment and Existing Conditions	10	24		4	64	46	9											
<b>Task 4: Metrics Development</b>																			
4.1	MMLOS Workshop	12	16		2	8	8	3	4										
4.2	Develop MMLOS Metrics	12	12		2	20	4	3	12										
4.3	Modal Network Development	8	24			60	16	7											
4.4	Apply Performance Metrics	8	32			72	7												
<b>Task 5A: Model Development</b>																			
5.1	Existing Data Collection and Base Year Model Inputs	8	32	60		180	18												
5.2	Base Year Scenario Calibration and Validation	8	16	60		80	10												
<b>Task 6A: Public Outreach</b>																			
6.1	Outreach Strategy and Social Media Plan	2	12		16	2	2												
6.2	Orientation Interviews	1	16			16	2												
6.3	Online Engagement and Public Outreach Materials (2022)	2	4		20	12	4	3	8	8		16							
6.4	Online Interactive Webmap	2	12		6	40	4	4											
6.5	Targeted Outreach and In-person engagement (2022)	8	40		16	52	20	9											
6.6	City Council/Boards/Commission Check-Ins (2022)	8	8			12	2												
<b>OPTIONAL TASKS</b>																			
<b>Task 1B: Project Management</b>																			
1.2	Project Management and Communication	24	32	4	2	5	8		24	24									
<b>Task 5B: Model Development</b>																			
5.3	Future Year Scenarios	12	20	40		80	10												
<b>Task 6B: Public Outreach</b>																			
6.3	Online Engagement and Public Outreach Materials (2023)	2	4		8	12	4	2	8	8		16							
6.6	City Council/Boards/Commission Check-Ins (2023)	8	16			4	2												
6.7	Targeted Outreach and In-person engagement (2023)	8	20		24	32	12	6											
6.8	Intercept Survey	2	2				0		8	8	32								
6.9	Outreach Summary		4		2		0												
<b>Task 7: Future Projects Development and Evaluation</b>																			
7.1	Future Auto Operations Assessment	2	8	4	8	100	4	8											
7.2	Develop Proposed Project List	16	40	4		24	8	6											
7.3	Policy, Program, and Project Prioritization	4	24	4	2	60	8	6											
7.4	Transit Service Recommendations	4	2				0		20	40	24	16							
<b>Task 8: Project Cost Estimates</b>																			
8.1	Cost Estimate Review and Updates	4	6				1		4	2	4		60	120					
8.2	New project development and cost estimating	4	6				1						90	140	80				
<b>Task 9: Project Funding Evaluation</b>																			
9.1	Funding Opportunities	8	8			16	2		4										
<b>Task 10: Report Development</b>																			
10.1	Draft Report	16	60		20	40	40	11	12	16	24	24							
10.2	Administrative Draft Plan	4	36		8	20	8	5	4	4	6	4							
10.3	Final Report	5	20		4	10	8	3	4	4	6	4							
<b>Task 11: Local Road Safety Plan</b>																			
11.1	Identify Risk Factors	8	16			40	4												

Exhibit B

3/28/2022		Fehr & Peers							Nelson\Nygaard				KPFF			FP Total	NN Total	KPFF Total	Subtotal
		Principal in Charge	Senior Planner / Deputy PM	Modeling/ Operations Lead	Outreach Lead	Project Planner	Graphics	Admin	Principal 5	Associate 2	Associate 1	Senior Designer	Civil Lead	Project Engineer	CAD Technician				
		Chris Breiland	Emily Alice Gerhart	Jeff Pierson	Sarah Saviskas	Marissa Milam	Peter Nguyen	Brittany Skinner	Thomas Wittmann	Joe Poirier	Ashankh Jaishankar	Brendan Rahman	Nathan Anderson	Cory Morton	Michael Vu				
		\$ 305	\$ 170	\$ 190	\$ 160	\$ 140	\$ 155	\$ 120	\$ 251	\$ 106	\$ 95	\$ 139	\$ 155	\$ 115	\$ 85				
<b>Tasks</b>																			
11.2	Most Common Risk Factor List	3	6			8	4	1								\$ 3,795	\$ -	\$ -	\$ 3,795.00
11.3	Analyze Roadway Network	4	6			12	8	2								\$ 5,400	\$ -	\$ -	\$ 5,400.00
11.4	Prioritize List of Roadway Sections	2	8			12	8	2								\$ 5,130	\$ -	\$ -	\$ 5,130.00
11.5	Identify Countermeasures	6	8			16	2	2								\$ 5,980	\$ -	\$ -	\$ 5,980.00
11.6	Draft & Final Plan	4	8			24	4	3								\$ 6,920	\$ -	\$ -	\$ 6,920.00
<b>Task 12: Management Reserve</b>																\$ 19,970	\$ -	\$ -	\$ 19,970.00
12.1	Analyze additional intersections - future conditions	10	24	16		64		7								\$ 19,970	\$ -	\$ -	\$ 19,970.00
Labor Total (2022)		146	377	139	68	881	151	121	61	95	80	26	0	0	0	\$ 307,175	\$ 36,618	\$ -	\$ 343,793.43
Traffic counts																\$ 40,000	\$ -	\$ -	\$ 40,000.00
Other Direct Expenses (mileage, printing, webmap licensing, translations, etc.)																\$ 13,050	\$ 150.00	\$ -	\$ 13,200.00
<b>Subtotal (2022)</b>																\$ 360,225	\$ 36,768.43	\$ -	\$ 396,993.43
Optional Task Labor Total (2023)		160	384	72	78	575	122	92	88	106	96	64	150	260	80	\$ 250,690	\$ 51,383	\$ 59,950	\$ 362,022.62
Other Direct Expenses on optional tasks (mileage, printing, webmap licensing, translations, etc.)																\$ 5,010	\$ 150.00	\$ -	\$ 5,160.00
<b>Optional Tasks Subtotal (2023)</b>																\$ 255,700	\$ 51,532.62	\$ 59,950	\$ 367,182.62
<b>Total (Labor + Expenses) &amp; Optional Tasks</b>																			\$ 764,176.05

**Notes:**

*This fee proposal is valid for a period of 90 days from the proposal submittal date.*

*Actual billing rate at the time of service may vary depending on the final staffing plan at the time the project starts; the overall fee will not be exceeded.*

*Mileage is billed at the IRS rate plus 10% handling fee*

*All other direct expenses are billed with 10% handling fee*

*Other direct costs including computer, communications, parking, and reproduction charges are billed as a percentage of labor*